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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,289	09/26/2003	Domino Taverner	WEAT/0451	8313
36735	7590	06/01/2006	EXAMINER	
PATTERSON & SHERIDAN, L.L.P. 3040 POST OAK BOULEVARD, SUITE 1500 HOUSTON, TX 77056			NGUYEN, TU T	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/672,289

Applicant(s)

TAVERNER ET AL.

Examiner

Tu T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____  | 6) <input type="checkbox"/> Other: ____                                     |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 16 is objected to because of the following informalities:

Claim 16, line 13, "the first" should be changed to "a first" to provide proper antecedent and basis.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 7-8, the phrase "wherein the spectral feature of interest has a bandwidth that is significantly greater than the first rate" is not clear. It is not clear how the bandwidth can be compared to the rate because the bandwidth is measured by wavelength or frequency but the rate is measured by the rate of change of the polarization. They have different measurement units. Since the limitation is indefinite, examiner do no give any patentable weight to the limitation.

Claims 16, lines 8-10; Claim 32, lines 7-8, refer to discussion in claim 1 above.

Claims 2-15,17-31,33-35 are rejected as being depended on a rejected claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froggatt (6,856,400).

With respect to claims 1,32,34, Froggatt discloses an apparatus comprising an optical source 14 (fig 1) that produces light that sweeps an optical spectrum (column 5, lines 39-47); a polarization element 16 (fig 1) that changes the polarization of the light (column 5, lines 58-60) at a first rate (rotating through a great circle, column 5, lines 58-60); an optical element 10 (fig 1) that produces a spectral response from the polarization changed light, wherein the spectral response includes a spectral feature of interest (column 5, lines 40-41), a receiver network 26 (fig 1) in optical communication with the optical element 10 (fig 1) that produces a received signal from the spectral response; and a data processing unit 30 (fig 1).

Froggatt does not explicitly disclose calculating a wavelength corresponding to the spectral feature of interest. However, Froggatt discloses that the spectral acquisition device 28 (fig 1) could be changed to a spectral measurement system such as an OSA depending on the light source (column 6, lines 45-50). It would have been obvious that the OSA taught by Froggatt could be used for measuring the wavelength of a measurement light. It would have been obvious to modify Froggatt with the known OSA

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for calculating a wavelength corresponding to the spectral feature of interest as claimed to measure different characteristics of the sample.

With respect to claim 2, Froggatt does not disclose calculating the wavelength being performed in a manner that is insensitive to variations or noise in the received signal. However, it would have been obvious modify Froggatt to perform the calculation in a manner that is insensitive to variation or noise in the received signal in order to make the system more accurate.

With respect to claims 3-4, Froggatt discloses an unknown and vary polarization transformation element 16 (fig 1) (column 5, lines 48-50).

With respect to claims 5,17, Froggatt discloses a tunable laser 14 (fig 1).

With respect to claims 6,18, Froggatt discloses using a broadband light source (column 5, line 46). Froggatt does not disclose a tunable filter. However, the combination of the broadband light source and a tunable filter would perform the same function as the tunable light source taught by Froggatt. It would have been obvious to modify Froggatt with the claimed broadband and tunable filter to supply different wavelength ranges without changing the system setup.

With respect to claims 7-10,19-22, Froggatt does not disclose the claimed passive or active depolarizer. However, it would have been obvious to modify Froggatt with different type of depolarizer for measuring different characteristics of the sample.

With respect to claims 11,23, Froggatt discloses a Brag Grating (column 1, line 20).

With respect to claims 12-13,24,27-29,35, Froggatt does not disclose the claimed method for calculating the filter wavelength. However, it would have been obvious to modify Froggatt with different calculating method for different intended uses.

With respect to claims 14,25, Froggatt discloses a detector 48 (fig 5).

With respect to claims 15,33, Froggatt does not disclose a low pass filter. However, it would have been obvious to modify Froggatt with the claimed filter to filter out any unwanted signal to facilitate the measuring.

With respect to claim 16, refer to discussion in claim 1 above for the system, claim 15 for the filter.

With respect to claim 26, Froggatt disclose a computer 26 (fig 1).

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With respect to claims 30-31, Froggatt does not disclose an analog or digital filter. However, the claimed filter would have been known. It would have been obvious to modify Froggatt with the claimed filters for filtering out any unwanted signals to facilitate the measuring.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley Jr. can be reached on (571) 272-2800 Ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tu T. Nguyen  
Primary Examiner  
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05/25/2006